US Army Corps of Engineers
New England District

Update Report for Vermont

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Home Page: http://www.nae.usace.army.mil

Current as of
May 31, 2001

Mission

The missions of the New England District, U.S. Army Corps of Engineers include flood prevention and control, emergency response for natural disasters and national emergencies, environmental remediation and restoration, natural resource management, stream bank and shoreline protection, navigation maintenance and improvement, support to military facilities and installations, and engineering and construction support to other federal agencies. The six New England states cover 66,000 square miles and have 6,100 miles of coastline, 11 deep water ports, 102 recreational and small commercial harbors, 13 major river basins, and thousands of miles of navigable rivers and streams. The district operates and maintains 31 dams, two hurricane barriers and the Cape Cod Canal. Through its Regulatory program, the district processes about 4,000 applications per year for work in waters and wetlands of the six-state region. We employ about 550 professional civilian employees, with about 400 stationed at our headquarters in Concord, Massachusetts. The other Corps of Engineers employees serve at Corps projects and offices throughout the region.

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Flood Control Studies

HARDWICK LAKE, HARDWICK – The state of Vermont (Agency of Natural Resources) has requested the New York District to investigate whether flood damage reduction (Section 205) and/or aquatic ecosystem restoration (Section 206) opportunities exist on the Lamoille River at Hardwick Lake in Hardwick. There is a long history of ice jam-related flooding at Hardwick Lake. The frequency of damaging jams has been reduced in past years through winter drawdowns and the installation of an ice retention structure upstream of the Village. However, the potential for a crippling ice jam in Hardwick still persists. Also, the annual drawdowns and the in-channel impoundment have caused degradation of the natural resources of the Lamoille River. FY01 federal funds will be used to assess the problem and determine whether federal interest is warranted.

LAMOILLE RIVER - The New York District conducted a site visit along with state officials to assess flooding problems and opportunities for environmental restoration along the Lamoille River. The Lamoille watershed forms part of the drainage divide, which separates the Connecticut and St. Lawrence river basins. Based upon initial findings and a letter of support from the Vermont Environmental Conservation Department, a Section 206 study (Ecosystem Restoration) has been proposed and endorsed by the state for the Wild Branch, Lamoille River in Wolcott. A letter

of support has been received from the state, and funds are listed for fiscal year 2001.

MAD RIVER BASIN - During FY 1999, the New York District began assessment of flooding problems and opportunities for environmental restoration along the Mad River Basin in Washington County. The Mad River is approximately 14.5 miles in length and stretches from the Waitsfield to the Winooski River. The properties along the river are primarily low density residential and agricultural and have been damaged by past floods. A final interim assessment report was forwarded to the state of Vermont in June 2000. The New York District, coordinating with the local sponsor, determined that federal interest in a Section 205 (Flood Damage Reduction) study was not warranted due to the lack of widespread flood damages. However, an opportunity for ecosystem restoration existed, and a Section 206 (Aquatic Ecosystem Restoration) study was recommended. The local sponsor subsequently sent a letter of support for a Section 206 study. FY 2001 federal funds will be used to prepare a Preliminary Restoration Plan.

NEW HAVEN RIVER BASIN - During FY 1999, the New York District began assessing flooding problems and opportunities for environmental restoration in the New Haven River Basin in Addison County. The New Haven River is approximately 15 miles in length and stretches from Baldwin to Otter Creek. The properties along the river are primarily low density residential and agricultural and have been damaged by past floods. A final interim assessment report was forwarded to the state of Vermont in June 2000. The New York District, coordinating with the local sponsor, determined that federal interest in a Section 205 (Flood Damage Reduction) study was not warranted due to the lack of widespread flood damages. However, an opportunity for ecosystem restoration existed and a Section 206 (Aquatic Ecosystem Restoration) study was recommended. The local sponsor subsequently sent a letter of support for a Section 206 study. FY 2001 federal funds will be used to prepare a Preliminary Restoration Plan.

TROUT RIVER - The New York District conducted a site visit, along with the Vermont Environmental Conservation Department, to assess flooding problems and opportunities for environmental restoration along the Missisquoi River Basin. Based on the initial findings and concurrence by the state, an Interim Assessment Report was prepared for the Trout River in Montgomery Center. The Assessment Report recommended both a Section 205 (flood control) and a Section 206 (environmental restoration) study. The report was forwarded to the state of Vermont in June 2000. Moving forward with a proposal under the Section 205 and 206 programs would require a letter from the Agency of Natural Resources stating that it would be the local sponsor for the projects. The state is considering its participation.

Navigation

BURLINGTON HARBOR - Repairs to the Corps-built breakwater in Burlington Harbor were recommended by a recent investigation. Plans were to award a contract late in the summer of 2000 and perform the work in the fall. However, delays in obtaining state approvals precluded the work from being done. Plans now call for a contract to be advertised and awarded over the winter months, with work to be done during a five- to six-month period from late spring through early fall of 2001. The $1 to $5 million project involves rebuilding three of the four ends of the two segment breakwater by placing bedding, core and armor stone.

Streambank Protection

RICHFORD WATER SUPPLY, MISSISQUOI AT RICHFORD - The New York District conducted a site visit, along with the Vermont Environmental Conservation Department, to assess flooding problems and opportunities for environmental restoration along the Missisquoi River Basin. Based on the initial findings and concurrence by the state, an Assessment Report was prepared under Section 14 (Emergency Streambank Protection) to assess alternatives to protect a water supply pipe for the community of Richford. The Assessment Report, which recommended federal interest in protecting the water supply line, was forwarded to the state of Vermont. The Vermont Agency of Natural Resources indicated its willingness to act as the nonfederal sponsor. The Planning and Design Analysis has been initiated, and plans and specifications are scheduled to be completed by October 2001.

WHITE RIVER, HANCOCK – At the request of the Agency of Natural Resources, the Corps has initiated a study of an erosion problem in Hancock. Approximately 300 linear feet of streambank at a location where the White River runs adjacent to State Route 100 is threatened by seasonal high flows and ice action. The study will be conducted under Section 14 of the Continuing Authorities program. *Work on the study will commence in the spring of 2001.*

Environmental Restoration

BURLINGTON HARBOR - The New York District participated in a site visit of Burlington Harbor in November 1997. The Corps and the city of Burlington examined numerous sites along the waterfront that might have potential for environmental restoration. It appears that additional studies for environmental restoration may be warranted under either Section 206 or Section 1135 of the Continuing Authorities Program and under General Investigation studies, if authorized. State support would be required before any such investigations could be undertaken.

MAD RIVER, WARREN, VT – The New York District determined that federal interest in a Section 205 (Flood Damage Reduction) study was not warranted. A Section 206 (Aquatic Ecosystem Restoration) study was recommended, for which study the local sponsor sent a letter of support. Upon completion of the Preliminary Restoration Report (PRP), the New York District will request approval and funds to initiate the feasibility phase.

NEW HAVEN RIVER, BRISTOL, VT - The New York District determined that federal interest in a Section 205 (Flood Damage Reduction) study was not warranted. A Section 206 (Aquatic Ecosystem Restoration) study was recommended, for which study the local sponsor sent a letter of support. Upon completion of the Preliminary Restoration Report (PRP), the New York District will request approval and funds to initiate the feasibility phase.

WILD BRANCH, WOLCOTT, VT - The New York District conducted a site visit along with state officials to assess flooding problems and opportunities for environmental restoration along the Lamoille River. The Lamoille watershed forms part of the drainage divide, which separates the Connecticut and St. Lawrence River Basins. Based upon initial findings and a letter of support from the Vermont Environmental Conservation Department, a Section 206 study (Ecosystem Restoration) has been proposed for the Wild Branch of the Lamoille River in Wolcott, Vermont. FY 2001 federal funds will be used to prepare a Preliminary Restoration Plan.

Superfund

Work for the Environmental Protection Agency - The New England District is designated as the Corps of Engineers total support agency for the Environmental Protection Agency's (EPA) Region I (New England) Superfund program for those federal-lead projects assigned to the Corps by EPA. This includes responsibility for design and/or construction execution of remediation projects. In addition, the district is providing technical assistance upon request to EPA New England for other federal-lead projects assigned by EPA to private firms as well as for some Potentially Responsible Party (PRP) remediation.

POWNAL TANNERY SITE, NORTH POWNAL - The Pownal Tannery Site is located in the Village of North Pownal, in Bennington County. The site was a former hide tanning and finishing facility owned by the Pownal Tanning Company and has been inactive since 1988 when the company ceased operations. The site consists of three contamination sources: the tannery building complex, a lagoon system, and the tannery's sludge landfill. In total, the Pownal Tannery Site encompasses approximately 28 acres.

The New England District is completing a non-time critical removal action at this site. This removal action was initiated in April 1999 utilizing a Remedial Action Contract with Stone & Webster. The project scope of work included the demolition and disposal of the tannery buildings, the excavation and disposal of contaminated sludge and soil in the basement of the tannery complex and construction of a RCRA cap at the landfill. All tannery buildings onsite were decontaminated and demolished. Demolished building debris was segregated and either recycled or disposed of off-site. The site of the former tannery building was regraded using clean fill material and seeded. At the landfill, construction of a new multilayer cap was completed in November 2000. This cap and newly installed leachate collection system prevent further discharge of contaminants to the groundwater and adjacent wetlands. The remaining work consists of seeding and planting of native woody vegetation which will be completed this spring. The cost of the removal action is approximately $7.8 million.

Subsequent EPA efforts, including a comprehensive environmental investigation of the remaining portions of the site that were affected by tannery operations, are underway. EPA initiated a Feasibility Study in January 2001 to identify and evaluate a range of alternatives to address potential site risks to human health and the environment. Both the investigation and study will be released by EPA for public review by June 2001. *The final remedy decision by EPA is scheduled for September 2001.*

COPPERAS BROOK, ELIZABETH MINES, SOUTH STRAFFORD – The site is an abandoned copper and iron-sulfate mine that operated from 1806 until its closure in 1958. The operations consisted of open-pit type mining. The mine workings were abandoned without any closure measures to restrict access or prevent runoff from entering the mine. In addition, there are about 40 acres of exposed tailings piles which are still producing acid mine drainage. This acid runoff is causing water quality problems in receiving waters of the drainage, Copperas Brook, and downstream in the West Branch of the Ompompanoosuc River.

At the request of the state of Vermont and as directed in the FY 1999 Energy and Water Appropriations Bill, the Corps explored the possibility of conducting a restoration project at the site. The project was to be conducted under the authority provided in Water Resources Development Act of 1996, Section 206 "Aquatic Ecosystem Restoration."

Meetings held with the Vermont Agency of Natural Resources (ANR) and EPA identified that issues at the site were complex and potentially involved hazardous and toxic materials covered under the Federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). This act is administered by EPA and is more commonly known as the Superfund program. One of the limitations of the Section 206 program is that any remediation of hazardous and toxic materials is the local sponsor's responsibility. As a result of this requirement, the ANR turned to the EPA for remediation assistance. Currently the site is being looked at by EPA under the "Superfund Program." After working closely with the community for the past year, EPA proposed including this site on the National Priorities List on December 2, 2000.

We have been tasked with performing a non-time critical removal action at this site to eliminate the risk posed by the exposed tailings piles. The first phase of work is underway and involves approximately $1,500,000 of ecological, drinking water, and dust/soil sampling which will be followed by the preparation of an Engineering Evaluation/ Cost Analysis (EE/CA) report. The EE/CA is currently scheduled for completion in the fall of 2001. We also hope to accomplish field investigations supporting a Remedial Investigation/Feasibility Study (RI/FS) during the summer of 2001. A final RI/FS report is not anticipated before 2003.

Defense Environmental Restoration Program

This Congressionally directed program (PL 98-212) provides for an expanded effort in environmental restoration. It emphasizes the identification, investigation and prompt cleanup of hazardous and toxic waste; unexploded ordnance; and unsafe buildings, structures and debris at current and former military facilities. Site and project eligibility investigations have been completed at all 13 formerly used Defense sites in Vermont, including nine where no work was found to be necessary. *Of the four sites where work was needed, the following efforts are underway:*

Remedial actions for the remaining four have been completed for formerly used facilities at **Burlington International Airport, Fort Ethan Allen in Burlington, and the St. Albans and Lyndonville Air Force stations.** Follow up investigations at the **St. Albans and Lyndonville Air Force stations** concluded that minor residual contamination is present. *A contract to perform remediation was awarded in March 2001 and field work is expected to begin in July of this year.*

Planning Assistance

Cost sharing (50/50) for the Section 22, Planning Assistance to States Program has presented challenges to the state in identifying funds that would be used for the nonfederal contribution. The state's interest in the program continues, and it plans to identify future needs within the state.

LAKE BOMOSEEN SHORELINE/ STRUCTURE ICE DAMAGE STUDY – The New England District, in conjunction with the Army's Cold Regions Research and Engineering Laboratory, has completed a Planning Assistance Study with the Vermont Department of Environmental Conservation. *The study determined the effect and severity of ice interaction with shoreline and/or structures on the westerly side of Lake Bomoseen. The study resulted in a report that suggests ways of stabilizing the shoreline or protecting structures along the shore from ice build-up along Lake Bomoseen. This cost*

shared (50/50) effort, between the Corps and the state of Vermont, was initiated in November 1999 and was completed in May 2001.

Flood Plain Management

DAM BREACH ANALYSIS, LAKE CHAMPLAIN DRAINAGE AREA - The New York District, in conjunction with the state of Vermont, has utilized the Flood Plain Management Program to conduct dam breach analyses throughout the Lake Champlain drainage area. Over the past decade, the district has prepared 27 such studies and currently is involved with four ongoing studies for the East Barre, Waterbury, Wrightsville and St. Albans dams. Final reports are to be provided to the Agency of Natural Resources in September 2001.

FIRST FLOOR ELEVATION SURVEYS, HARDWICK AND JOHNSON - The state of Vermont requested the New England District to conduct, under the Flood Plain Management Services program, an investigation of first floor flood elevations for Hardwick and Johnson. The study involves performing a first floor elevation survey of structures located within the 100-year floodplain for designated areas. Surveys will be completed this summer, with a draft report submitted in December 2001.

DAM BREACH ANALYSIS, WOODWARD RESERVOIR, PLYMOUTH – The New England District is currently conducting a dam breach analysis of Woodward Reservoir for the Vermont Agency of Natural Resources, Dam Safety Section*. Sunny and stormy-day failure scenarios have been analyzed. Completion of the final report has been delayed as the original scope of work was modified to include flood inundation mapping (orthor photo based). The work began in September 2000 and will be completed in August 2001.*

Regulatory

VERMONT PROJECT OFFICE RELOCATION – The Vermont Project Office relocated from Colchester to Essex Junction. The new mailing address is 8 Carmichael Street, Suite 205, Essex Junction, Vermont 05452, and new telephone is 802 872-2893 (fax 802 879-7638).

STATISTICS - *At the end of January, there were 102 active applications for regulated work in Vermont. During February, March, and April, 65 new applications were received. Final actions were taken on 73 applications, including no individual permits, 41 general permits, five not required, and no denials. The balance at the end of April was 94 active files. During this quarter, the New England District processed 99 percent of all permit applications in less than 60 days.*

PROGRAMMATIC GENERAL PERMIT - The New England District has comprehensive Programmatic General Permits (PGPs) in place in each of the six New England states covering work with minimal impact on the aquatic environment. Up to 98 percent of all permits issued in New England are PGPs. The PGPs are based on the state thresholds for most categories of environmental impacts, and applicants generally need only file with the state. The federal screening is virtually transparent to applicants, and the PGP approval is either included in the state approval letter or mailed simultaneously. Applications appropriately covered under the PGPs are generally approved in under 30 days.

Applicants have commented favorably about the simplicity, predictability and efficiency of the PGPs. *In February the district issued an amendment to the PGP providing for a streamlined response to remedial action needed to address other emergency situations, such as oil or gas spills.*

VERMONT AGENCY OF TRANSPORTATION ROUTE 9 RECONSTRUCTION – We are currently processing an application for the reconstruction of about 3.6 miles of Vermont Route 9 in Searsburg and Wilmington. Route 9 is the major east-west route in the southern part of the state. The original project involved the rechannelization of about 1,200 linear feet of the Deerfield River, as well as impacts to Harriman Reservoir and numerous wetlands. In response to concerns expressed during the Public Notice comment period, the western end of the project is being redesigned. Redesign will entail the elimination of the rechannelization of the river by constructing three bridges. *A revised application is now expected in June 2001.*

VERMONT AGENCY OF TRANSPORTATION ROUTE 78 RECONSTRUCTION – Preapplication consultation is ongoing for the reconstruction and widening, essentially on alignment, of about six miles of Vermont Route 78 between Swanton and Alburg. The existing highway passes through the Missisquoi National Wildlife Refuge. Route 78 is a major truck route from Interstate 89 in Vermont to Interstate 87 in New York. *A series of workshops with the federal, state and local resource agencies to resolve certain design issues are ongoing. The application is not expected until mid to late 2001.*

VERMONT AGENCY OF TRANSPORTATION BENNINGTON BYPASS – A provisional permit was issued for the Bennington Bypass Highway in 1998. Authorization for the construction of the western segment of the highway, a portion of which is in New York State, was granted in 1999. Work on the western segment of the highway began in March 2000. Construction of the compensatory mitigation site for the entire project was completed in September 2000. The Corps continues to monitor construction activities.

FRANKLIN COUNTY AGRICULTURAL CONVERSIONS – We are investigating numerous unauthorized conversions of wetland to cropland in Franklin County. The unauthorized activities range from an acre or less to 60+ acres in size. *One case has been referred to the U.S. Attorney for legal action, and another is being prepared for referral. Settlement discussions are ongoing. The EPA will be handling the enforcement action on a third case, assisted by the New England District Vermont Project Office. The Corps and EPA have sponsored or participated in several outreach/educational meetings in Vermont over the last few months to assist farmers in understanding the permit requirements. The Corps has issued two after-the-fact permits and continues to provide one-on-one help to farmers applying for permits.*

STOWE MOUNTAIN SKI RESORT *– Preapplication consultation is ongoing for Stowe Mountain Ski Resort's proposed construction of storage ponds, a golf course, residential units, and ski trails, and improvements to existing water withdrawals as a part of the "SMR 2000" Master Plan. Portions of all aspects of the project will involve work within Corps jurisdiction. Investigation of alternative sites for proposed snowmaking storage ponds is being conducted. An application for the project is not expected until mid- to late-2001.*

MOUNT SNOW/HAYSTACK SKI AREA *– The Corps is a member of the Interdisciplinary Team for the U.S. Forest Services EIS for this*

project, reviewing the development of a water supply to enable the Mt. Snow/Haystack Ski Area to support a snowmaking system. Alternatives being considered are water withdrawals from Harriman Reservoir or Somerset Reservoir (with a pipeline from the reservoir to the snowmaking facilities), and a new withdrawal structure on the West Branch of the Deerfield River with a storage pond(s). Harriman Reservoir is the preferred alternative, since impacts to the aquatic resource would be minimal. The intake structure and pipeline in Harriman Reservoir and a portion of the supply pipeline will be on lands included as "conservation lands" in Settlement Agreements that are a part of the FERC license for the Deerfield River Hydroelectric Project. Concurrence by all signatories parties to the Settlement Agreements is necessary before Mt. Snow/ Haystack could utilize the reservoir. Negotiations have been ongoing for several years between the applicant and the signatories to the Settlement Agreements. Conclusion of the negotiations and subsequent selection of the Least Environmentally Damaging Practicable Alternative is not anticipated until late 2001.

Flood Control Dams

The New England District has constructed, operates and maintains five flood control dams in Vermont. In addition to flood control activities, the Corps also manages the natural resources at these projects for multiple uses such as recreation and wildlife management. Information on each is provided below.

The Corps of Engineers is responsible for the conservation of natural resources held in public trust at civil works water resources projects. In some areas, management is delegated to the states for specific purposes, e.g., campgrounds, wildlife management and forestry. The Corps also works with state and local officials and the public to ensure that the Corps projects meet their recreation and natural resources needs.

MASTER PLAN UPDATES - The New England District is updating master plans for Ball Mountain and Townshend lakes. *Drafts of these documents are scheduled for completion by the end of September 2001*.

BALL MOUNTAIN LAKE on the West River in Jamaica was constructed at a cost of $11 million in 1961. The 915-foot-long, 265-foot-high dam can impound a 54,600-acre-foot reservoir which is equivalent to 17.8 billion gallons of water. During the 1987 floods, Ball Mountain Dam utilized 100 percent of its storage capacity and prevented damages of $18.3 million. Since it was placed in operation in 1961, it has prevented damages of $97 million. The reservoir area offers fine recreational opportunities, including swimming, picnicking, fishing, hunting, canoeing, nature study and camping at Winhall Brook Camping Area in South Londonderry. This popular camping area offers 111 sites for tent or RV campers; some sites have hookups and others have lean-to shelters for rent. Ball Mountain welcomes over 130,000 visitors each year.

NORTH HARTLAND LAKE on the Ottauquechee River in Hartland was completed in 1961 at a cost of $7.3 million. The 1,640-foot-long, 185-foot-high earthen structure can impound a 1,100-acre lake capable of storing 23.2 billion gallons of water, and the facility has prevented damages to date of nearly $80.5 million. More than 377,000 visitors annually enjoy picnicking, swimming, fishing, hunting, hiking, and snowmobiling available at the 1,467-acre North Hartland reservation. The New England District and the state of Vermont are partners in the management of the reservoir. Vermont manages Quechee Gorge State Park in the

upper third of the reservoir and provides a campground, picnic facilities and trails for the visiting public. The New England District operates a large day-use area on the shore of North Hartland Lake with a developed beach area, picnic facilities and athletic fields.

The process of designing and constructing the Quechee Gorge Visitor Center is progressing. The Corps has selected the final design. Finalized plans will be completed by the Corps and the architect-engineering firm by August 2001. The project is the result of many years of work by the Quechee Gorge Committee. This committee has been instrumental in developing the Quechee Gorge Master Plan and securing $1.25 million for implementation from the Public Lands Highway Discretionary Program. The Quechee Gorge Visitor Center is being built on Corps property by the state of Vermont and will be donated to the Corps and operated by the Quechee Chamber of Commerce under a cooperative agreement with the Corps.

The Visitor Center is designed to provide the public with information about the local area, including the natural and cultural history of the gorge. Additionally, the public will be able to gather information on other attractions in the state. The Corps will maintain an interpretive display in the center, will have volunteers help staff the center and plans to make available a computer system that will allow the public to access our web page.

NORTH SPRINGFIELD LAKE on the Black River in North Springfield was completed in 1960 at a cost of $6.8 million. The 2,940-foot-long, 120-foot-high earthen dam can impound a 1,200-acre lake, capable of storing 16.5 billion gallons of water. More than $84.4 million in flood damages have been prevented by North Springfield Dam. Picnicking, swimming, hiking, hunting, fishing, and snowmobiling are enjoyed at the 1,372 acres of land and water by more than 10,000 visitors each year.

TOWNSHEND LAKE on the West River in Townshend is 1,700 feet long, 133 feet high and cost $7.4 million to construct. Its lake can hold a 33,700 acre-foot reservoir with a capacity to store 10.8 billion gallons of water. During the 1987 floods, the dam utilized 100 percent of its storage capacity and prevented damages of $14.2 million. Since it was placed in operation in 1961, it has prevented damages of $62.5 million. The reservoir area offers fine recreational opportunities, including swimming, picnicking, fishing, hunting, canoeing, boating and nature study and annually attracts nearly 29,000 visitors. Townshend Lake, in conjunction with Ball Mountain Lake, provides scheduled white water releases in the spring and fall. Over 800 canoeists, kayakers and rafters take advantage of each event.

UNION VILLAGE DAM on the Ompompanoosuc River in Thetford is a 1,100-foot-long, 170-foot-high earthen structure capable of storing 12.3 billion gallons of water in a 740-acre lake. Construction on the $4 million dam was completed in 1950, and since that time the facility has prevented damages of more than $30.3 million. More than 19,000 visitors annually enjoy the picnicking, swimming, hiking, fishing, hunting and snowmobiling available on Union Village's 983 acres of land and water.

In addition, the New York District designed three dams in the Lake Champlain drainage area during the mid 1930s. These include **EAST BARRE DAM** on the Jail Branch of the Winooski River in Barre, **WATERBURY DAM** on the Little River in Waterbury, and **WRIGHTSVILLE DAM** on the North Branch of the Winooski River in Montpelier. These dams were constructed by the Civilian Conservation Corps under the direction of the New York District, and all are operated and maintained by the state of Vermont.

Work for Others

Work for the Department of Housing and Urban Development - The Corps of Engineers has entered into an interagency agreement with the Department of Housing and Urban Development. In accordance with the agreement the Corps performs physical inspections, contract administration reviews, drawings and specifications reviews, and final inspections for Housing Authorities located throughout Vermont.

Dam Safety Assurance Program

WATERBURY DAM, WATERBURY - The Waterbury Dam, built by the Civilian Conservation Corps during the 1930s under U.S. Army Corps of Engineers supervision, was constructed on and over a natural gorge of the Little River about two miles from its confluence with the Winooski River. The dam is operated and maintained by the state of Vermont. The dam was constructed of compacted earthfill with a clay core, covered with two feet of rock riprap, and it provides flood control benefits for the Little and Winooski river basins during major rainfall events. The 860-acre Waterbury Reservoir and surrounding lands is a popular recreation area. The project also includes a hydropower facility operated by Green Mountain Power. Borings conducted at the dam in the mid-1980s by the Corps of Engineers revealed less compacted areas and voids in that portion of the dam which rests on and over the Little River gorge. This situation allows seepage of water through the dam, causing piping, boils and internal erosion problems.

The New England District is assisting the New York District in studying seepage problems at Waterbury Dam. As part of that effort, a Dam Safety Report and an Environmental Assessment were completed and approved by Corps of Engineers headquarters in January 2001. Subsurface exploratory work to assist in evaluating repair alternatives was completed in December 2000. A number of alternatives were evaluated, including doing nothing; removing the entire dam structure; building an entirely new dam; implementing partial corrective measures, such as reducing water levels and adding impervious blankets or filters; and rehabilitation to include installing cutoff walls, reconstructing the entire gorge section and building a multistage filter shaft at the gorge. The recommended alternative is a multistage filter shaft and monitoring chamber.

Congress added construction funds of $2,000,000 for FY 2001. These funds will allow us to negotiate and execute a Project Cooperation Agreement with Vermont, prepare plans and specifications, initiate cultural resources investigations and environmental plans, and continue subsurface work. Future funding will be required in FY 2002 to initiate construction of the filter shape and other repairs. *Baltimore District is currently developing plans and specifications for the project. As part of the plans and specs effort, additional sub-surface investigation is being performed at the dam, estimated completion is September 2001. Environmental investigation by New England District, surveying of the reservoir, is being performed. Estimated completion is September 2001.*

Special Studies

LAKE CHAMPLAIN AQUATIC PLANT CONTROL PROGRAM - Authorized by the River and Harbor Act of 1958, the Aquatic Plant Control Program for Lake Champlain provides for the control and eradication of aquatic plants in navigable waters, tributary streams, connecting channels and other allied waters in the interest of navigation, flood control, drainage, agriculture, fish and wildlife conservation, public health, and related purposes. Approximately 1,615 acres of aquatic plants, water chestnuts and Eurasian water-milfoil infest the Lake Champlain Basin. Unharvested acreage of these foreign plants is a constant source of future infestation and requires removal, since they have adverse effects on navigation and the ecosystem, especially native aquatic plants. Project Cooperation Agreement between the New York District and the Vermont Department of Environmental Conservation (VT DEC) signed in June 2000 allowed the harvesting program to be completed in September 2000. Funds ($300,000) were allocated in FY 2001 to continue conducting similar cost-shared (50-50) planning and control operations work within the Lake Champlain Basin. A PCA for this work is scheduled for execution in May 2001.

VERMONT DAMS - Section 543 of the Water Resources Development Act of 2000 authorizes the Secretary of the Army to remediate various dams in Vermont. Specifically, the authorizing language calls for a study to evaluate the structural integrity and need for modification or removal of ten dams in the state. The Act directs that a design analysis, plans and specifications, and cost estimates be provided to the nonfederal interest. Should the Secretary determine that any of the dams present an imminent and substantial risk to public safety, the Act authorizes the Secretary to carry out measures to prevent or mitigate against such risk. These activities are to be cost shared 35 percent by nonfederal interests. The dams identified are: East Barre Dam in Barre Town; Wrightsville Dam in Middlesex-Montpelier; Lake Sadwga Dam in Whitingham; Dufresne Pond Dam in Manchester; Knapp Brook Site 1 Dam in Cavendish; Lake Bomoseen Dam in Castleton; Little Hosmer Dam in Crafsbury; Colby Pond Dam in Plymouth; Silver Lake Dam in Barnard; and, Gale Meadows Dam in Londonderry. The Act authorized $5 million dollars, but appropriations have not been made. *New York District is currently developing the scope of work for this project.*